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EXAMINER

DAO, THUY CHAN

ART UNIT	PAPER NUMBER
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2192

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/18/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/846,067

Applicant(s)

SHARMA ET AL.

Examiner

Thuy Dao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,6-8 and 10-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 November 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This action is responsive to the amendment filed on November 6, 2006.
2. Claims 1, 3-4, 6-8, and 10-20 have been examined.

Response to Amendments

3. Per Applicants' request, claims 1, 6-8, 13-15, and 17-19 have been amended.
4. The objection to the specification is withdrawn in view of Applicants' explanation.

Claim Objections

5. Claim 1 is objected to because of the following informalities:

line 11, in view of independent claim 15, line 9, and claim 1, line 16, the phrase is considered to read as - -...using data stored in a system repository...- -; and

lines 11-12, the phrase "*...the abstract persistence physical schema capable of being;*" is added without underlining. In view of independent claims 8 and 15, the above phrase is considered redundant and should be deleted.

Appropriate correction is required.

Response to Arguments

6. The Applicants are thanked for a thorough reply. Applicants' arguments with respect to claims 1, 3-4, 6-8, and 10-20 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections – 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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8. Claims 1, 3-4, 6-8, and 10-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nally (art of record, US Patent No. 6,298,478) in view of "Enterprise JavaBeans Specification, v1.1", Sun Microsystems, Inc., published December 1999 (art made of record, hereinafter "EJB1.1").

Claim 1:

Nally discloses *a method for upgrading managed state for a JAVA based application* (e.g., col.10: 10-21 and 36-45) comprising:

executing a JAVA module on a server (an Enterprise JavaBeans EJB, col.1: 43-49), wherein the JAVA module is in a middle-tier between a client browser and databases (e.g., col.9: 5-22),

the JAVA module including at least one original entity bean (e.g., FIG. 5, EJB 500 including Entity Bean 520, col.13: 14-20) *and at least one original state object* (e.g., FIG. 5, Version Status Data 530, col.13: 29-34) *in communication with the original entity bean* (e.g., col.13: 34-54),

the original state object storing a state of the original entity bean (e.g., col.14: 21-39; col.13: 34-54);

the state of the original entity bean being associated with one or more fields (e.g., col.14: 21-31, the state "new", "old", "delete: Yes/No", "modified: Yes/No" being associated with one or more fields in Instance Data 550, col.14: 51-61),

wherein the one or more fields are capable of being mapped to a physical schema (e.g., col.11: 37-54, field customer's name, identification number and/or account information in Instance Data 550 being mapped to data store 650 in FIG. 6B, col.15: 16-21 or database 110 in FIG. 1, col.2: 16-19);

generating an upgraded state object, the JAVA module including the upgraded state object (e.g., FIG. 5, generating Version Status Data of Entity Bean 521 or 522, col.13: 56-65; the JAVA module (EJB 500) still includes the upgraded state object (Version Status Data)),

wherein the upgraded state object is generated by upgrading the physical schema using data stored in a system repository that is part of the databases (e.g., FIG. 5, col.13: 56 – col.14: 20, the Version Status Data of Entity Bean 521 or 522 is generated by upgrading the physical schema using data in data store 650 or database 110 above, that is part of one or more common databases, col.10: 1-9; col.11: 8-24);

transferring the state stored in the original state object to the upgraded stated object (e.g., FIG. 4, col.14: 2-12; col.13: 29-44),

without disrupting the operation of the JAVA module (e.g., col.13: 29-44; col.14: 7-61; FIG. 6B, two versions 681 and 682 without disrupting operations of JAVA module EJB Account 100, col.15: 17-55);

wherein the original state object is upgraded in the JAVA module (e.g., Version Status Data 530 of Entity Bean 520 and that of Entity Bean 521, 522 are generated, upgraded, and deleted in EJB 500, col. 14: 21-39);

generating an upgraded entity bean using data stored in the system repository (e.g., FIG. 5, col.13: 56-65, generating Entity Bean 521 or 522 using data stored in the system repository 650 or 110 above); and

providing state management for an original entity bean using the upgraded state object (e.g., col.14: 21-39).

Nally does not explicitly disclose *[one or more fields] defined by an abstract schema*. However, in an analogous art, EJB1.1 further discloses *[one or more fields] defined by an abstract schema* (e.g., page 130, section 9.4.1, an abstract schema defining container-managed fields and methods of accessing them, lines 2-6, 9-15; page 129: 26-31; and said abstract schema is capable of being mapped to a database schema, page 130: 26 – page 131: 3).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine the teaching of EJB1.1 into that of Nally. One would have been motivated to do so to follow the EJB specification and maintain object persistence as suggested by EJB1.1 (e.g., page 99, section 9.1.3, Entity persistence

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(data access protocol), first two paragraphs; page 101, section 9.1.3.2 Container-managed persistence, first four paragraphs).

Claim 3:

The rejection of base claim 1 is incorporated. Nally also discloses *the operation of managing the stated of the upgraded entity bean using the upgraded state object* (e.g., col.14: 21-61).

Claim 4:

The rejection of intervening claim 3 is incorporated. Nally also discloses *both the original entity bean and the original state object are disabled* (e.g., EJB Object 510 dynamically determines the current transaction, connects to it, and disable both Entity Bean 520 and Version Status Data 530, col.14: 12-20; col.15: 10-16).

Claim 6:

The rejection of base claim 1 is incorporated. Nally also discloses *the state of the original entity bean is further associated with one or more relationships defined by the abstract schema* (e.g., FIG. 5, further associated with Business Logic 540, col.13: 14-44).

Claim 7:

The rejection of base claim 1 is incorporated. Nally also discloses *functionality of the JAVA application is not disrupted when the JAVA module is upgraded* (e.g., FIG. 4, functionality of transaction tree 400 is not disrupted, col.10: 10-45; col.10: 48 – col.13: 12).

Claim 8:

Nally discloses *a JAVA platform capable of performing an online upgrade on a JAVA application* (e.g., col.10: 10-21 and 36-45), *the JAVA platform comprising:*

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a JAVA module is in a middle tier between a client browser and databases (e.g., an Enterprise JavaBeans EJB; col.1: 43-49; col.9: 5-22),

the JAVA module including at least one original entity bean (e.g., FIG. 5, EJB 500 including Entity Bean 520, col.13: 14-20) and at least one original state object (e.g., FIG. 5, Version Status Data 530, col.13: 29-34) in communication with the original entity bean (e.g., col.13: 34-54),

the original state object storing a state of the original entity bean (e.g., col.13: 34-54; col.14: 21-39),

the state of the original entity bean being associated with one or more fields (e.g., col.14: 21-31, the state "new", "old", "delete: Yes/No", "modified: Yes/No" being associated with one or more fields in Instance Data 550, col.14: 51-61),

wherein the state object provides state management for the original entity bean (e.g., col.14: 21-39); and

a repository that is part of the databases (e.g., FIG. 1, database 110 and server application 120-122 storing class files for EJBs, col.2: 17-30; col.9: 48-67; col.10: 1-9) and

having upgraded class files for the original entity bean (e.g., FIG. 5, Entity Bean 521 or 522 is an instance of upgraded class files for the original entity bean 520, col.13: 4-20, 57-65) and

upgraded class files for the original state object (e.g., FIG. 5, the Version Status Data of Entity Bean 521 or 522 is an instance of upgraded class files for the original state object 530, col.13: 29-44, 57-65),

wherein the original state object is upgraded by generating an upgraded state object, the JAVA module including the upgraded state object (e.g., generating Version Status Data of Entity Bean 521 or 522, col.13: 56-65; the JAVA module (EJB 500) still includes the upgraded state object (the Version Status Data of Entity Bean 521 or 522)),

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using upgraded class files from the repository, and transferring the state stored in the original state object to the upgraded state object (e.g., FIG. 4, col.14: 2-12; col.13: 4-20, 29-44, 57-65)

without disrupting the operation of the JAVA module (e.g., col.13: 29-44; col.14: 7-61; FIG. 6B, two versions 681 and 682 without disrupting operations of JAVA module EJB Account 100, col.15: 17-55);

wherein the original state object is upgraded in the JAVA module (e.g., Version Status Data 530 of Entity Bean 520 and that of Entity Bean 521 or 522 are generated, upgraded, and deleted in EJB 500, col. 14: 21-39); and

and upgrade entity bean is created using data from the repository as the JAVA platform is upgraded (e.g., Entity Bean 521 or 522 is created using data from the repository above, col.13: 56-65, 34-44).

Nally does not explicitly disclose *[one or more fields] defined by an abstract schema*. However, in an analogous art, EJB1.1 further discloses *[one or more fields] defined by an abstract schema* (e.g., page 130, section 9.4.1, an abstract schema defining container-managed fields and methods of accessing them, lines 2-6, 12-25; page 129: 26-31; upgraded class files provided by Bean Provider in Figure 21, pp. 98-99; generating additional class files to support entity beans; pp.127-129, section 16.5 Deployment descriptor DTD, pp. 244-259 with <!ELEMENT ejb-class (#PCDATA)> in page 246, <!ELEMENT prim-key-class (#PCDATA)> in page 254).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine the teaching of EJB1.1 into that of Nally. One would have been motivated to do so to follow the EJB specification, maintain object persistence, and support EJB deployment as suggested by EJB1.1 (e.g., page 99, section 9.1.3, Entity persistence (data access protocol), first two paragraphs; page 101, section 9.1.3.2 Container-managed persistence, first four paragraphs; pp.127-129, section 9.3, The responsibilities of Container Provider).

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Claims 10-11:

The rejection of base claim 8 is incorporated. Claims 10-11 are JAVA platform versions, which recite the same limitations as those of claims 3-4, wherein all the claimed limitations have been addressed/set forth above. Therefore, as the reference teaches all of the limitations of the above claims, it also teaches all of the limitations of claims 10-11.

Claim 12:

The rejection of base claim 8 is incorporated. Nally also discloses *the upgraded state object is generated by upgrading a physical schema using data stored in the repository* (e.g., col.11: 16-24, col.14: 7-12, col.13: 60-65, col.10: 35-45).

Claims 13-14:

The rejection of base claim 8 is incorporated. Claims 13-14 are JAVA platform versions, which recite the same limitations as those of claims 6-7, wherein all the claimed limitations have been addressed/set forth above. Therefore, as the reference teaches all of the limitations of the above claims, it also teaches all of the limitations of claims 13-14.

Claim 15:

Nally discloses *a method for upgrading a JAVA application having a managed application state* (e.g., col.10: 10-21 and 36-45), *comprising the operations of:*

executing a JAVA module on a server (executing an Enterprise JavaBeans EJB, col.1: 43-49), *wherein the JAVA module is in a middle tier between a client browser and databases* (e.g., col.9: 5-22),

the JAVA module includes at least one original entity bean (e.g., FIG. 5, EJB 500 includes Entity Bean 520, col.13: 14-20) *and at least one original state object* (e.g., FIG. 5, Version Status Data 530, col.13: 29-34) *in communication with the original entity bean* (e.g., col.13: 34-54),

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the original state object storing a state of the original entity bean (e.g., col.14: 21-39; col.13: 34-54),

the state of the original entity bean being associated with one or more fields (e.g., col.14: 21-31, the state "new", "old", "delete: Yes/No", "modified: Yes/No" being associated with one or more fields in Instance Data 550, col.14: 51-61);

generating an upgraded state object, the JAVA module including the upgraded state object (e.g., FIG. 5, generating a Version Status Data of Entity Bean 521 or 522, col.13: 56-65; the JAVA module (EJB 500) still includes the upgraded state object (Version Status Data)),

using data stored in a system repository that is part of the databases (e.g., using data in data store 650 in FIG. 6B, col.15: 16-21 or database 110 in FIG. 1, col.2: 16-19; col.10:1-9; col.111: 8-24);

transferring the state stored in the original state object to the upgraded stated object (e.g., FIG. 4, col.14: 2-12; col.13: 29-44),

without disrupting the operation of the JAVA module (e.g., col.13: 29-44; col.14: 7-61; FIG. 6B, two versions 681 and 682 without disrupting operations of JAVA module EJB Account 100, col.15: 17-55);

wherein the original state object is upgraded in the JAVA module (e.g., Version Status Data 530 of Entity Bean 520 and that of Entity Bean 521, 522 are generated, upgraded, and deleted in EJB 500, col. 14: 21-39);

providing state management for an original entity bean using the upgraded state object (e.g., col.14: 21-39),

generating an upgraded entity bean using data stored in the system repository (e.g., FIG. 5, col.13: 56-65, generating Entity Bean 521 or 520 using data stored in the system repository 650 or 110 above);

providing state management for the upgraded entity bean using the upgraded state object (e.g., col.14: 21-39); and

disabling both the original entity bean and the original state object (e.g., EJB Object 510 dynamically determines the current transaction, connects to it, and

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disable both Entity Bean 520 and Version Status Data 530, col.14: 12-20; col.15: 10-16).

Nally does not explicitly disclose *[one or more fields] defined by an abstract schema*. However, in an analogous art, EJB1.1 further discloses *[one or more fields] defined by an abstract schema* (e.g., page 130, section 9.4.1, an abstract schema defining container-managed fields and methods of accessing them, lines 2-6, 12-25; page 129: 26-31; upgraded class files provided by Bean Provider in Figure 21, pp. 98-99; generating additional class files to support entity beans; pp.127-129, section 16.5 Deployment descriptor DTD, pp. 244-259 with `<!ELEMENT ejb-class (#PCDATA)>` in page 246, `<!ELEMENT prim-key-class (#PCDATA)>` in page 254).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine the teaching of EJB1.1 into that of Nally. One would have been motivated to do so to follow the EJB specification, maintain object persistence, and support EJB deployment as suggested by EJB1.1 (e.g., page 99, section 9.1.3, Entity persistence (data access protocol), first two paragraphs; page 101, section 9.1.3.2 Container-managed persistence, first four paragraphs; pp.127-129, section 9.3, The responsibilities of Container Provider).

Claims 16-18:

The rejection of base claim 15 is incorporated. Claims 16-18 are method versions, which recite the same limitations as those of claims 12-14, wherein all the claimed limitations have been addressed/set forth above. Therefore, as the reference teaches all of the limitations of the above claims, it also teaches all of the limitations of claims 16-18.

Claim 19:

The rejection of base claim 15 is incorporated. Nally also discloses *the original state object and the upgraded state object are respectively classified into a particular state management unit* (e.g., col.13: 29-44).

Claim 20:

The rejection of intervening claim 19 is incorporated. Nally also discloses *the state management unit is used to facilitate upgrading of the original state object* (e.g., col.13; 29-44, col.14; 21-61).

Conclusion

9. Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication should be directed to examiner Thuy Dao (Twee), whose telephone is (571) 272 8570. The examiner can normally be reached on Monday, Tuesday, Thursday, and Friday from 6:00AM to 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam, can be reached at (571) 272 3695.


The fax phone number for the organization where this application or proceeding is assigned is (571) 273 8300.

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Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is (571) 272 2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

T. Dao



TUAN DAM
SUPERVISORY PATENT EXAMINER